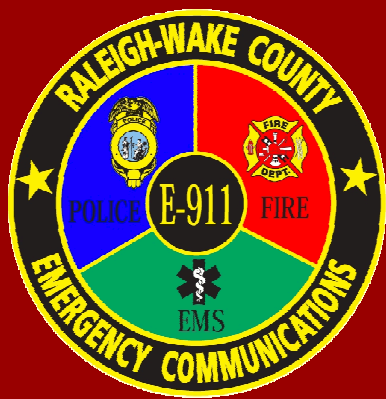


# Raleigh—Wake Emergency Communications Annual Report



2009



## Introduction from the Director



**Raleigh-Wake Emergency Communications**  
**PO Box 590**  
**Raleigh, NC 27602**

Mr. Allen, Mayor Meeker, Members of Council, and WECO Board Members:

It is with great pleasure that I present to you the 2009 Annual Report of the Raleigh-Wake Emergency Communications Center and the City of Raleigh Communications Electronics Maintenance Shop. I believe that we, as the City of Raleigh, have made great strides in the past twelve months.

The Emergency Communications Center (ECC) and the Communications Electronics Maintenance Shop (CEMS) have each taken initiatives to improve sustainability with the virtualization of servers, recycling of radios, and other efforts outlined elsewhere in this document. And, as always, this document is distributed in electronic format only, with printing done on demand by those who may wish a hard copy.

In spite of the troubling economic times, we have moved ahead with technology, acquiring over a million dollars worth of electronics at no cost to the general fund of the City or those of our user agencies. As this is written, we are scheduling our next academy which will finally bring us close to being at full authorized strength; a challenge that we first undertook four years ago.

Finally, significant work went into maintaining Raleigh's effort of sustainability. The use of virtual servers reduced our electrical demand, while increased reliance on Automatic Vehicle Location softened the carbon footprint of first responders by cutting down on distance traveled to emergencies.

Respectfully submitted,

Barry Furey, Director

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**2009**

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Training and Technical Services Reports are produced by their respective divisions, and are included herein.



*Special thanks is given to Mike Legeros and Lee Wilson for their photographs which are used throughout this document.*

**2009**

## Administrative Staff

### Barry Furey, Director

Walt Fuller, ENP, Deputy Director Operations

Kelly Palmer, ENP, Deputy Director Technology & Staff Services

Richard Batchelor, ENP, CALEA Accreditation Manager

Judy Capparelli, ENP, EMD Quality Improvement / Supervisor

Craig Schulz, ENP, Systems Manager

Bill Eagan, GIS Database Manager

Dustin Winkler, Systems Administrator

Matt Boyd, Systems Administrator

Glenn Lamb, Systems Administrator / GIS

Brad Golden, Systems Administrator

Bill Passerino, Communications and Electronics Maintenance Supervisor

Kevin Whelan, 800MHz Technician

Angie Schulz, ENP, Training Supervisor

Amanda Davis, Training Coordinator

John Franks, ENP, Training Coordinator

Bob Leap, Training Coordinator

Angie Young, Sr. Staff Support Specialist

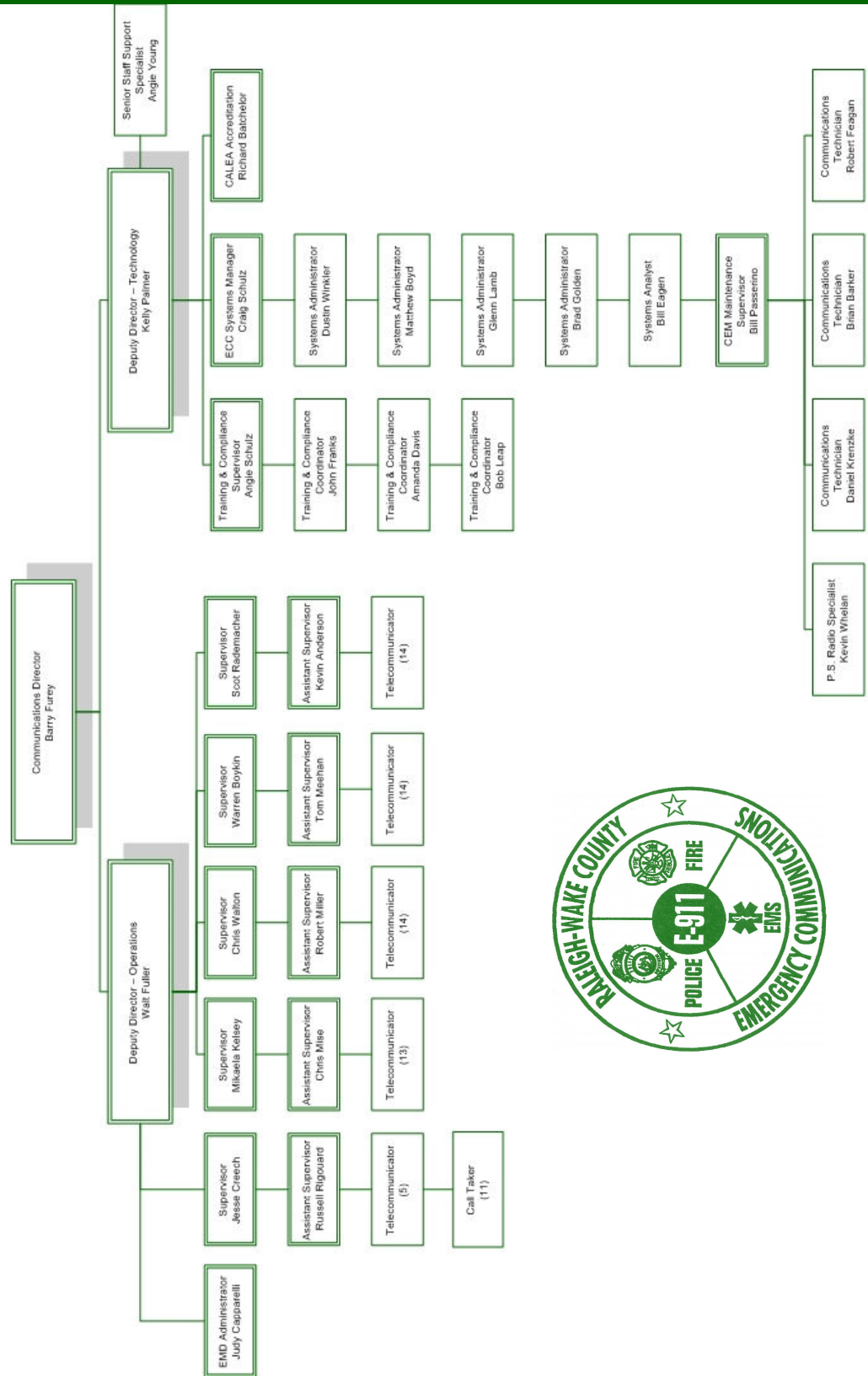
*\*ENP signifies recognition as an Emergency Number Professional, a knowledge-based achievement awarded by the National Emergency Number Association.*





## Raleigh-Wake Emergency Communications Organizational Chart

Raleigh – Wake Emergency Communications Organization



## Raleigh-Wake Emergency Communications

### *Our User Agencies*



|                                      |                             |
|--------------------------------------|-----------------------------|
| Apex EMS                             | Apex Fire                   |
| Bay Leaf Fire                        | Cary EMS                    |
| City-County Bureau of Identification | Durham Highway Fire         |
| Eastern Wake EMS                     | Eastern Wake Fire           |
| Fairview Fire                        | Falls Fire                  |
| Fuquay-Varina Fire                   | Fuquay-Varina Police        |
| Fuquay-Varina Public Works           | Garner EMS                  |
| Garner Fire                          | Garner Police               |
| Garner Public Works                  | Holly Springs EMS           |
| Holly Springs Fire                   | Hopkins Fire                |
| Knightdale Public Safety             | Knightdale Public Works     |
| Morrisville Fire                     | Morrisville Police          |
| Morrisville Public Works             | North Carolina Forestry     |
| Raleigh Fire                         | Raleigh Police              |
| Raleigh Public Works                 | Raleigh-Durham Int. Airport |
| Rolesville Fire                      | Rolesville Police           |
| Rolesville Public Works              | Six Forks EMS               |
| Stony Hill Fire                      | Wake County EMS             |
| Wake County Fire / Rescue            | Wake Forest Fire            |
| Wake Forest Police                   | Wake Forest Public Works    |
| Wake-New Hope Fire                   | Wendell Fire                |
| Wendell Police                       | Wendell Public Works        |
| Western Wake Fire                    | Zebulon Fire                |
|                                      | Zebulon Police              |

### *Our Mission Statement*

*The Raleigh-Wake Emergency Communications Center is the true first responder to all emergencies. Our mission is to act as a vital and critical link between our public safety agencies and the citizens they protect and serve. We strive to ensure the preservation of life and property by treating all who use our services with professionalism, courtesy, and compassion and by relaying accurate information in a timely and efficient manner.*

## Dispatch and Call Taking Statistics

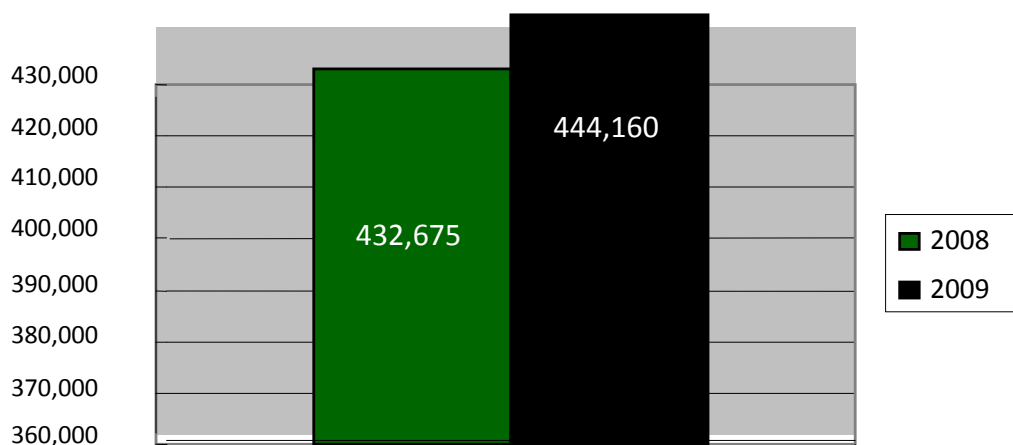


One of the main purposes of any communications center is to serve as an interface between the public and public safety. During 2009, Raleigh-Wake Emergency Communications once again dispatched a record number of calls for assistance, keeping pace with community growth. During 2009, incident numbers decreased slightly for fire departments, but grew for law enforcement and emergency medical services that we dispatch.

*During the past five years, public safety incidents have increased by more than 25%. Raleigh-Wake Emergency Communications now dispatches an average of 1,217 calls per day, compared to 976 calls per day in 2004.*



Annual Dispatch Totals 2008 - 2009



## Dispatch and Call Taking Statistics

### Public Safety Dispatch Comparisons 2000—2009\*

| Agency         | 2000 Dispatches | 2009 Dispatches | Increase |
|----------------|-----------------|-----------------|----------|
| County Fire    | 14,228          | 25,206          | 82.3%    |
| EMS            | 40,449          | 73,946          | 82.8%    |
| Raleigh Fire   | 24,114          | 34,210          | 41.9%    |
| Raleigh Police | 218,841         | 260,135         | 18.9%    |
| Municipal Law  | 39,428          | 50,066          | 27%      |
| Total          | 346,044         | 432,833         | 25%      |

\* Total number of **public safety** dispatches does not count incidents handled for service agencies such as CCBI. These events are reflected in total dispatch figures on page 7.

**A**n analysis of ten year dispatch statistics shows double digit growth in all agencies, with fire and EMS showing the largest growth. Comparing 2008—2009 provides some change, with a pattern of slow growth overall, with the largest gains being made by our municipal law enforcement users. Fire agencies, on average, were responsible for less calls in 2009 than in the previous year, and 9-1-1 calls were also down, but it is impossible to predict any trend based upon a single year's experience. (Also, software issues during January and February may have lowered the 9-1-1 figure.) Detailed dispatch counts for all public safety agencies served by RWECC are included on the overleaf.

### Public Safety Dispatch Comparisons 2008—2009

| Agency         | 2008 Dispatches | 2009 Dispatches | Change |
|----------------|-----------------|-----------------|--------|
| County Fire    | 25,937          | 25,206          | -2.8%  |
| EMS            | 70,394          | 73,946          | 5.0%   |
| Raleigh Fire   | 34,578          | 34,210          | -1.0%  |
| Raleigh Police | 249,651         | 260,135         | 4.2%   |
| Municipal Law  | 40,848          | 50,066          | 22.6%  |
| Total          | 421,408         | 432,833         | 2.7%   |

# 2009



## Incoming Telephone Calls Workload

|                          | <u>2005</u>    | <u>2006</u>    | <u>2007</u>    | <u>2008</u>    | <u>2009</u>    |
|--------------------------|----------------|----------------|----------------|----------------|----------------|
| 9-1-1 Calls Received     | 467,780        | 494,305        | 514,364        | 516,706        | 515,165        |
| 10-Digit Calls Received  | 333,859        | 357,104        | 340,925        | 308,451        | 289,942        |
| <b>Total Phone Calls</b> | <b>801,639</b> | <b>851,409</b> | <b>855,289</b> | <b>825,157</b> | <b>805,107</b> |

*For the purpose of analysis, a “call” refers to a telephone call answered by ECC personnel. The terms “dispatch” and “incident” synonymously apply to an event to which public safety personnel are assigned. Since not every telephone call results in a dispatch, and because multiple calls may be received for the same incident, the number of calls in any given year will exceed dispatches.*

## Non-Emergency Calls Reduced

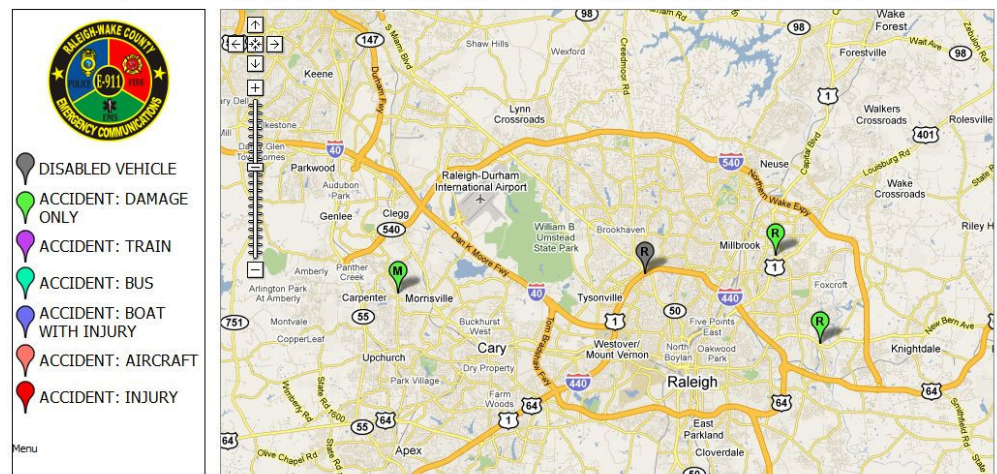
**In 2007, the Raleigh-Wake Emergency Communications Center began an initiative to reduce non-emergency calls. Several steps were taken, including the provision of web-based applications that provide direct access to information formerly gained through phone calls to telecommunicators, and an online traffic application using Twitter and Google Maps.**

***Seven digit calls to the center have decreased by more than 67,000 per year as a result.***

**In 2009, Raleigh Wake Emergency Communications handled over a million total telephone calls, making it the second busiest 9-1-1 center in the state.**

**Last year telecommunications made 262,339 outgoing calls in support of field units. This represents an increase of 16.7% since 2006.**

## Raleigh - Wake County 911 Incident Data



**All data provided for informational purposes only.**

# 2009


**Accident information can be found online at <http://incidents.rwecc.com>**

# 2009 Dispatch Statistics

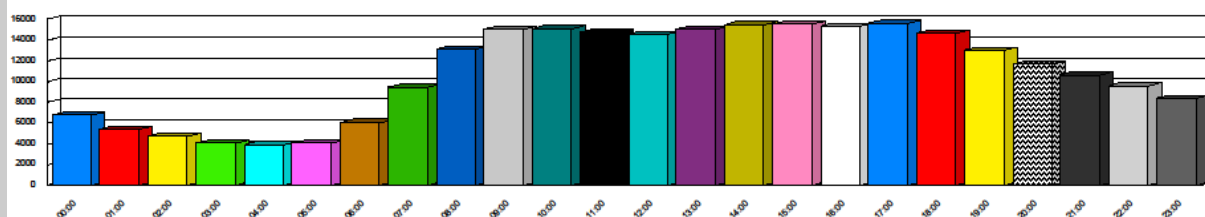
|               | RPD            | FVPD       | GPD           | HSP      | KPD          | MPD          | ROP          | WFPD       | WEP          | ZPD          | RFD           | WCF           | EMS           | LE Total       | FD Total      |
|---------------|----------------|------------|---------------|----------|--------------|--------------|--------------|------------|--------------|--------------|---------------|---------------|---------------|----------------|---------------|
| January       | 19,059         | 28         | 1,145         | 0        | 579          | 430          | 104          | 40         | 168          | 510          | 2,942         | 2,130         | 5,965         | 22,063         | 5,072         |
| February      | 17,572         | 25         | 1,141         | 0        | 571          | 403          | 103          | 26         | 169          | 465          | 2,744         | 1,957         | 5,691         | 20,475         | 4,701         |
| March         | 20,377         | 40         | 1,237         | 0        | 631          | 458          | 104          | 54         | 158          | 468          | 2,961         | 2,204         | 6,405         | 23,527         | 5,165         |
| April         | 20,729         | 33         | 1,265         | 0        | 607          | 464          | 153          | 54         | 180          | 526          | 2,707         | 2,074         | 5,949         | 34,741         | 4,781         |
| May           | 23,834         | 40         | 1,260         | 0        | 677          | 470          | 104          | 65         | 196          | 587          | 2,874         | 2,159         | 6,212         | 27,233         | 5,033         |
| June          | 23,700         | 50         | 1,367         | 0        | 651          | 514          | 119          | 40         | 197          | 509          | 2,775         | 2,084         | 6,214         | 27,147         | 4,859         |
| July          | 23,738         | 48         | 1,311         | 0        | 607          | 508          | 111          | 54         | 183          | 757          | 2,957         | 2,181         | 6,279         | 27,317         | 5,138         |
| August        | 23,759         | 50         | 1,278         | 0        | 637          | 495          | 110          | 47         | 174          | 580          | 2,973         | 2,115         | 6,447         | 27,130         | 5,088         |
| September     | 22,699         | 47         | 1,205         | 0        | 597          | 491          | 116          | 43         | 160          | 569          | 2,837         | 1,964         | 6,010         | 25,927         | 4,801         |
| October       | 22,885         | 34         | 1,294         | 0        | 621          | 584          | 120          | 52         | 158          | 565          | 2,887         | 2,253         | 6,525         | 26,313         | 5,140         |
| November      | 20,963         | 41         | 1,342         | 0        | 576          | 452          | 112          | 31         | 191          | 530          | 2,808         | 2,074         | 6,161         | 24,238         | 4,882         |
| December      | 20,820         | 32         | 1,304         | 0        | 638          | 495          | 128          | 42         | 167          | 464          | 2,745         | 2,011         | 6,088         | 24,090         | 4,756         |
| <b>Totals</b> | <b>260,135</b> | <b>468</b> | <b>15,149</b> | <b>0</b> | <b>7,392</b> | <b>5,764</b> | <b>1,384</b> | <b>548</b> | <b>2,101</b> | <b>6,530</b> | <b>34,210</b> | <b>25,206</b> | <b>73,946</b> | <b>310,201</b> | <b>59,416</b> |

|               | Public Safety Dispatch | Daily Average  | Quarterly Total | YTD Dispatch Total | NON Public Safety | Public Service | CCBI         | YTD Total Dispatch | WC-1       | WC -7      | Tow          | Total Non PS Dispatch | 800 Radio PTT    |
|---------------|------------------------|----------------|-----------------|--------------------|-------------------|----------------|--------------|--------------------|------------|------------|--------------|-----------------------|------------------|
| January       | 33,100                 | 1,067.7        |                 | 33,100             | Jan               | 317            | 612          | 34,029             | 40         | 69         | 709          | 1,747                 | 197,024          |
| February      | 30,867                 | 1,102.4        |                 | 63,967             | Feb               | 163            | 507          | 31,537             | 32         | 77         | 541          | 1,320                 | 187,472          |
| March         | 35,097                 | 1,132.2        | 99,064          | 99,064             | March             | 275            | 616          | 35,988             | 38         | 82         | 683          | 1,694                 | 205,426          |
| April         | 34,741                 | 1,158.0        |                 | 133,805            | April             | 187            | 813          | 35,741             | 37         | 72         | 595          | 1,704                 | 193,618          |
| May           | 38,478                 | 1,241.2        |                 | 172,283            | May               | 258            | 786          | 39,522             | 26         | 64         | 664          | 1,798                 | 191,395          |
| June          | 38,220                 | 1,274.0        | 111,439         | 210,503            | June              | 202            | 859          | 39,281             | 40         | 57         | 576          | 1,734                 | 193,467          |
| July          | 38,734                 | 1,249.5        |                 | 249,237            | July              | 235            | 809          | 39,778             | 14         | 46         | 536          | 1,640                 | 195,066          |
| August        | 38,665                 | 1,247.3        |                 | 287,902            | Aug               | 190            | 762          | 39,617             | 17         | 47         | 718          | 1,734                 | 172,907          |
| September     | 36,738                 | 1,224.6        | 114,137         | 324,640            | Sept              | 168            | 783          | 37,689             | 19         | 46         | 670          | 1,686                 | 194,618          |
| October       | 37,978                 | 1,225.1        |                 | 362,618            | Oct               | 211            | 766          | 38,955             | 15         | 43         | 694          | 1,729                 | 196,642          |
| November      | 35,281                 | 1,176.0        |                 | 397,899            | Nov               | 189            | 685          | 36,155             | 23         | 39         | 764          | 1,700                 | 188,640          |
| December      | 34,934                 | 1,126.9        | 108,193         | 432,833            | Dec               | 209            | 725          | 35,868             | 24         | 56         | 669          | 1,683                 | 191,196          |
| <b>Totals</b> | <b>432,833</b>         | <b>1,185.4</b> |                 | <b>432,833</b>     | <b>Totals</b>     | <b>2,604</b>   | <b>8,723</b> | <b>444,160</b>     | <b>325</b> | <b>698</b> | <b>7,819</b> | <b>20,169</b>         | <b>2,307,471</b> |

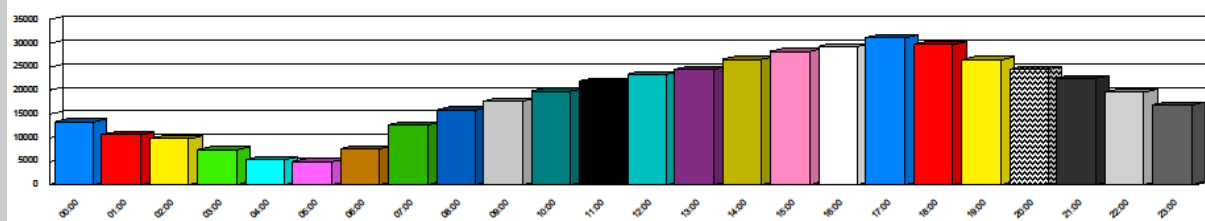
## 2009 Telephone Statistics

|  | Monthly        | Daily        | Quarterly      | YTD            | 7 digit        | Total          | % answered       | % answered       | % answered       | Outgoing       |
|--|----------------|--------------|----------------|----------------|----------------|----------------|------------------|------------------|------------------|----------------|
|  | 911            | 911          |                | 911            |                | Calls          | within           | within           | within           | Calls          |
|  | Total          | Average      |                | Total          |                | Answered       | 2 rings (12 sec) | 3 rings (18 sec) | 5 rings (30 sec) | Total          |
| <b>January</b>   | 41,882         | 1,351        | 130,551        | 41,882         | 26,100         | 67,982         | 72.1             | 84.0             | 94.4             | 21,223         |
| <b>February</b>  | 40,932         | 1,462        |                | 82,814         | 25,500         | 66,432         | 79.6             | 89.6             | 96.7             | 20,423         |
| <b>March</b>   | 47,737         | 1,540        |                | 130,551        | 24,620         | 72,357         | 82.7             | 92.0             | 97.8             | 22,120         |
| <b>April</b>   | 44,733         | 1,491        | 134,791        | 175,284        | 24,522         | 69,255         | 78.9             | 90.1             | 97.2             | 21,344         |
| <b>May</b>   | 47,283         | 1,525        |                | 222,567        | 24,570         | 71,853         | 82.6             | 92.3             | 97.9             | 22,389         |
| <b>June</b>  | 42,775         | 1,426        |                | 265,342        | 25,041         | 67,816         | 81.7             | 91.8             | 97.7             | 22,240         |
| <b>July</b>  | 43,545         | 1,405        | 124,589        | 308,887        | 25,536         | 69,081         | 83.0             | 92.8             | 98.1             | 22,206         |
| <b>August</b>  | 40,231         | 1,298        |                | 349,118        | 24,362         | 64,593         | 82.3             | 92.8             | 98.3             | 23,893         |
| <b>September</b>   | 40,813         | 1,360        |                | 389,931        | 23,071         | 63,884         | 81.3             | 92.1             | 97.9             | 20,201         |
| <b>October</b>   | 42,707         | 1,378        | 125,234        | 432,638        | 23,204         | 65,911         | 81.1             | 92.3             | 98.0             | 22,208         |
| <b>November</b>  | 40,925         | 1,364        |                | 473,563        | 21,667         | 62,592         | 86.8             | 94.6             | 98.7             | 21,665         |
| <b>December</b>  | 41,602         | 1,342        |                | 515,165        | 21,749         | 63,351         | 87.4             | 95.2             | 98.8             | 22,427         |
| <b>Total</b>   | <b>515,165</b> | <b>1,412</b> | <b>515,165</b> | <b>515,165</b> | <b>289,942</b> | <b>805,107</b> | <b>81.6</b>      | <b>91.6</b>      | <b>97.6</b>      | <b>262,339</b> |

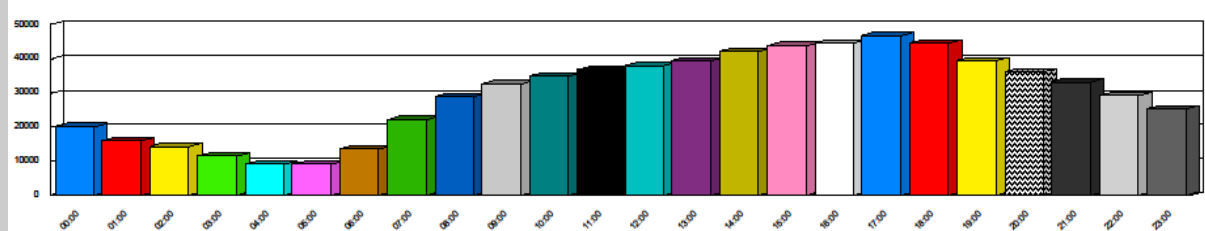
Seven Digit Calls Received by Time of Day—2009



9-1-1 Calls Received by Time of Day—2009



Aggregate—All Calls Received by Time of Day—2009



# 2009

The above graphs show the telephone call distribution for RWECC by hour on an average day. As staffing approaches authorized levels, we are better able to coordinate our schedules with these peaks and valleys.

## Accreditation—Maintaining High Standards



### CALEA

- Raleigh-Wake Emergency Communications is the first CALEA accredited 9-1-1 Center in North Carolina, and is one of only 60 centers worldwide to receive this honor.
- Less than one percent of 9-1-1 centers nationwide are accredited.

In November of 2007, the Raleigh-Wake Emergency Communications Center became the first 9-1-1 facility in the state to become accredited by CALEA; the Commission on Accreditation for Law Enforcement Agencies. By so doing, we committed to achieving the highest level of standards possible.

For the past year, ECC staff has been heavily involved in preparing for our first re-accreditation due in 2010, and have taken action to meet 80% of those standards declared “optional” in our first review. Additional training and procedures that further bolster our compliance are now also in place.

During 2008, a new edition of communications standards was released that added areas of review including Homeland Security. Director Barry Furey served on the committee that drafted these updated guidelines, and CALEA Accreditation Manager Richard Batchelor has instituted internal processes to ensure that Raleigh-Wake Emergency Communications is in compliance with both new and old regulations.

CALEA Accreditation provides the benefit of a standardized, recognized, independent review that serves as a recognized measure of excellence.

# 2009

also marked our second complete year as an Accredited Center of Excellence, as recognized by The National Academy of Emergency Medical Dispatch. Raleigh-Wake Emergency telecommunicators helped to deliver 12 babies via pre-arrival instructions over the telephone (including three in one day) and were recognized for their efforts during a ceremony in May. Judy Capparelli, Quality Improvement Supervisor, assures that all personnel meet or exceed national standards, with center personnel averaging 99.25% compliance based upon more than 4,000 reviews conducted during 2009.



# 2009



## "I Knew What to Do"—Rewarding Kid Callers

Since 2006, the Raleigh-Wake Emergency Communications Center has provided formal recognition to children aged twelve and under who show initiative, poise, and composure while making emergency calls. More often than not, these calls are made on behalf of an adult family member who is seriously ill. Many of them are truly life-saving.

As part of this unique program, the juvenile callers are presented with a framed certificate and a 9-1-1 goody bag in a public ceremony. These awards are typically bestowed during an assembly at the student's school or, in some cases, at a regular meeting of the Raleigh City Council.

While these heroes in our community may be little, their deeds are certainly big.



Telecommunicators Chris Mise and Stephanie Barnard pose with Nick Miller who "Knew What To Do."

During 2009, one new member was added to our growing list of exceptional young people. In August, RWECC staff visited the Lufkin Road Middle School to honor Nick Miller who called 9-1-1 not once—but twice in order to secure emergency medical assistance for his mother.



On the left, Director Barry Furey addresses a class at the Lufkin Rd. Middle School prior to the ceremony. On the right, Nick poses proudly with his award, as his mother and father along with ECC staff stand by.



# 2009

## The Year In Pictures



Telecommunicator Jay Morgan displays a certificate presented to him for his telephone assistance in delivering a baby boy. RWECC believes in recognizing employees for special deeds. Other programs include "You're Just Ducky" - the awarding of a rubber duck to those caught doing the right thing, and our annual Employee and Rookie of the Year competitions.

On June 9th, the Town of Garner was home to one of the more significant Mass Casualty Incidents (MCIs) in recent memory when a natural gas explosion caused a collapse of a large section of the ConAgra plant on Jones Sausage Road. Four people were killed and many more injured in an event that lasted for several days. This was but one of more than 432,000 events dispatched by RWECC in 2009.



**The ConAgra Blast was one of many incidents handled by RWECC during 2009.**



**Lifesaving Efforts Rewarded**

Alan Sanders, Joel Mullen, Tom Meehan, Roger Camarillo, Rob Miller, Corey Saddler, and Brent Boykin were among several ECC, Fire, and EMS employees honored on May 18th for their lifesaving efforts the previous year. Raleigh-Wake Emergency Communications was cited for our use of pre-arrival instructions to callers, particularly during childbirth and CPR.

**Raleigh-Wake Emergency Communications**

# 2009

# Raleigh-Wake Emergency Communications

# 2009

The Raleigh-Wake Emergency Communications Center graduated its 39th Academy in October, 2009. This class is now in their final phases of hands-on training on the 9-1-1 center floor. As of this writing, plans are already in place for the 40th Academy, which will begin in March of 2010. RWECC is moving ever closer to our goal of fully authorized staffing.



**The 39th Academy Graduation**



**System Administration Day**

In August, we celebrated System Administrators' Day in honor of our in-house information technology professionals. From left to right, Craig Schulz, Bill Eagen, Glen Lamb, Dustin Winkler, and Brad Golden proudly pose during the celebration. A photo of Matt Boyd also symbolically joined the party.

National Telecommunicators' Week is supported in Raleigh by an annual mayoral proclamation each April. A variety of activities, such as a pre-softball game cookout, are organized as a way of saying thanks for the year-round efforts of Raleigh-Wake Emergency Communications employees.



**The Ghost of Babe Ruth Returns**

**The year in pictures—2009**

# 2009

2009

## The Year In Pictures (continued)



Barwell Road Vestibule

During 2009 RWECC began work on a new vestibule addition to the backup 9-1-1 center on Barwell Road. This provided both an added level of security and an energy buffer, since under the original design the outside door opened directly behind telecommunicator stations and into the climate controlled Operations area.

A variety of activities are slated during Telecommunicators Week, when a few days are set aside to specifically honor the hard work performed by RWECC staff during every week of the year. To the right, City Manager J. Russell Allen receives an unannounced visit from a group of time travelers during *Retro Dress Up Day*.



Back to the Seventies



Bob Leap at the RPD Academy

Bob Leap, Training Coordinator, as he addresses the Raleigh Police Academy. In addition to the lessons provided for RWECC staff, training academy personnel provide training to other user agencies, and bear responsibility for a wide range of duties, including public education and recruiting.

Raleigh-Wake Emergency Communications

2009

## Honors and Awards

# ENP

Emergency Number Professional

**T**he National Emergency Number Association (NENA) awards the certification of Emergency Number Professionals to those individuals who demonstrate their proficiency in and understanding of 9-1-1 technology, management, and supervision.

Raleigh-Wake Emergency Communications is proud to employ more ENPs than any other 9-1-1 center in North Carolina. The following individuals have successfully completed this examination, and are recognized for their efforts:

|                   |                  |                 |
|-------------------|------------------|-----------------|
| Richard Batchelor | Brent Boykin     | Judy Capparelli |
| Jesse Creech      | John Franks      | Walt Fuller     |
| Mikaela Kelsey    | Robert Miller    | Kelly Palmer    |
| Scot Rademacher   | Russell Rigouard | Angie Schulz    |
| Craig Schulz      | Chris Walton     |                 |

### Telecommunicator Emergency Response

**“W**ho does 9-1-1 call for help?” has long been a question asked by many individuals. The answer is “TERT”; the Telecommunicator Emergency Response Taskforce. Raleigh-Wake ECC Supervisor Jesse Creech is the statewide chair of this group of emergency service personnel who are trained to deploy during disasters to provide personnel resources to 9-1-1 centers impacted by disasters.



### “Cheaper by the Dozen— Part II”



**R**aleigh-Wake Telecommunicators helped to deliver 12 babies during 2009 by providing emergency medical instructions over the phone. Telecommunicators Corey Saddler and Anthony Patterson provided instruction for two deliveries each. The total number of Babies (12) was identical to 2008.

2009



## Honors and Awards



**Kevin Anderson and Heather Fletcher display their awards after a Raleigh City Council meeting in April. Kevin was selected as the Employee of the Year, and Heather the ECC Rookie of the Year for 2009.**

During 2009, ECC employees received several awards for service. We congratulate these deserving employees for their accomplishments.

- Mayor Charles Meeker issued a proclamation for “Telecommunicators’ Week” in April during a City Council meeting.
- Call taker Heather Fletcher received the “Rookie of the Year” award.
- Telecommunicator Kevin Anderson received the “Employee of the Year” award for 2009 by the ECC.
- Deputy Director Kelly Palmer was sworn in as President of the North Carolina Chapter of the National Emergency Number Association (NENA) at the annual conference in Sunset Beach, NC.
- Training Supervisor Angie Schulz was named Training Coordinator for NC NENA.
- EMD Supervisor Judy Capparelli was elected Secretary for the North Carolina Chapter of APCO (Associated Public Safety Officials).
- Accreditation Manager Richard Batchelor was elected as the Region “B” Ambassador for the North Carolina Chapter of APCO.
- Director Barry Furey was appointed as the Legislative Committee Chairman for the North Carolina Chapter of APCO.
- Supervisor George (Chris) Walton was honored as the NC APCO 2009 Supervisor of the Year.
- Technical Services Supervisor Craig Schulz was named NC NENA “Support Person of the Year”.



## Quality Assurance and Feedback Analysis



### 2009 Emergency Medical Dispatch (EMD) Scores

|                    |               |
|--------------------|---------------|
| "A" shift          | 99.11%        |
| "B" shift          | 99.37%        |
| "C" shift          | 99.31%        |
| "D" shift          | 99.19%        |
| "E" Shift          | 99.27%        |
| <b>ECC Average</b> | <b>99.25%</b> |

**T**he Raleigh-Wake Emergency Communications Center is committed to providing the best service possible to our community. As such, independent reviews are regularly conducted of randomly selected calls to ensure compliance with protocols and professional demeanor. Last year, more than 4,000 emergency medical incidents alone were analyzed and scored based upon preestablished guidelines.

The text box to the left shows a shift-by-shift breakdown of the monitoring and grading of a variety of components including provision of pre-arrival instructions, case entry, and appropriate diagnosis.

With the authorization of an information technology position in 2008, additional staff time has been freed to provide for even more detailed quality assurance in the future.

### Community Satisfaction Survey

**I**n order to better gauge our service to the public, the Raleigh-Wake Emergency Communications Center makes available a web-based tool whereby citizen callers can leave input or ask questions regarding their experiences in reporting an emergency.

During 2009, we received a total of 35 responses. This is slightly more than half the number received in 2008. Of these:

- 18 called for law enforcement assistance
- 12 called to request an ambulance
- 5 called to report a fire
- 22 rated their services as "excellent"
- 6 rated it "good"
- 2 rated service as "satisfactory"
- 5 described it as "poor", but some of these comments related to response and other items not under the control of RWECC

## Quality Assurance and Feedback Analysis

Every year the Raleigh-Wake Emergency Communications Center performs a detailed analysis of formal feedback provided by the public, and by user agencies. Independent of web-based comments, this feedback consists of letters, emails, and telephone calls made directly to the center administration concerning the handling of calls. This feedback is broken down into three categories; *commendations* which consist of formal compliments to service staff—*complaints*, which deal with alleged errors or rudeness—and *inquiries* designed to provide additional information regarding an incident. If at any time during the provision of this information, potential errors or misconduct on the part of the Emergency Communications Center or staff is discovered, the incident is reclassified as a complaint.

### Feedback Comparison

|                                    | <u>2007</u> | <u>2008</u> | <u>2009</u> |
|------------------------------------|-------------|-------------|-------------|
| <b>Total formal feedbacks</b>      | <b>109</b>  | <b>63</b>   | <b>82</b>   |
| <b>Commendations</b>               | <b>24</b>   | <b>17</b>   | <b>24</b>   |
| <b>Inquiries</b>                   | <b>21</b>   | <b>11</b>   | <b>23</b>   |
| <b>Citizen complaints</b>          | <b>22</b>   | <b>18</b>   | <b>10</b>   |
| <b>User complaints</b>             | <b>39</b>   | <b>17</b>   | <b>31</b>   |
| <b>Total complaints</b>            | <b>61</b>   | <b>35</b>   | <b>42</b>   |
| <b>Valid complaints</b>            | <b>31</b>   | <b>15</b>   | <b>23</b>   |
| <b>Unfounded complaints</b>        | <b>13</b>   | <b>8</b>    | <b>7</b>    |
| <b>Exonerated by investigation</b> | <b>17</b>   | <b>12</b>   | <b>12</b>   |

Statistically speaking, complaints received on the day shift (6:30 AM—6:30 PM) were twice that of those received for the night shift. This bucked a two year trend in which complaints ran relatively equal. There was little differentiation between the five squads of personnel. The bulk of complaints from users came from the Emergency Medical Services agencies (42 percent), and overall user complaints rose from 2008. Still, they remained lower than the baseline measurements from 2007. In fact, user complaints in 2007 were received at the rate of one per every 10,686 dispatches. Due to the increase in activity, the rate for 2009 was one complaint per every 13,962 dispatches; a 31% improvement. Citizen complaints dropped to their lowest on record—a total of ten for the entire year. This represents one complaint received for every 80,511 telephone calls answered. Again, these are based upon *all* complaints recorded. These figures do not account for the fact that only 55% of those investigated were deemed to be founded.

**2009**

## Attrition and Turnover Analysis

### Five Year Attrition Experience

| Fiscal Year                          | Authorized Staffing | Total Attrition | Turnover   | Experience > 1 Year | % of Attrition | Experience <1 Year | % of Attrition | Experience ≤6 Mos | % of Attrition |
|--------------------------------------|---------------------|-----------------|------------|---------------------|----------------|--------------------|----------------|-------------------|----------------|
| FY2005                               | 76                  | 15              | 20%        | 10                  | 67%            | 2                  | 13%            | 3                 | 20%            |
| FY2006                               | 78                  | 13              | 17%        | 9                   | 69%            | 3                  | 23%            | 1                 | 8%             |
| FY2007                               | 80                  | 21              | 26%        | 9                   | 43%            | 5                  | 24%            | 7                 | 33%            |
| FY2008                               | 94                  | 18              | 19%        | 7                   | 39%            | 3                  | 17%            | 8                 | 44%            |
| FY2009                               | 103                 | 22              | 21%        | 10                  | 45%            | 10                 | 45%            | 2                 | 10%            |
| FY2010 (YTD)                         | 102                 | 5               | 5%         | 2                   | 40%            | 1                  | 20%            | 2                 | 40%            |
| <b>Average Attrition FY05-10 YTD</b> |                     |                 | <b>18%</b> | <b>47</b>           | <b>50%</b>     | <b>24</b>          | <b>25%</b>     | <b>23</b>         | <b>25%</b>     |
| <b>Total Attrition FY05-10 (YTD)</b> |                     | <b>94</b>       |            |                     |                |                    |                |                   |                |

**A**n analysis of our most recent five year attrition experience places us slightly ahead of the national curve of 19% for this period.

However, much improvement has been noted during the past eighteen months. This can be attributed to a number of factors including an improved hiring and screening process, and a slow economy. It should also be noted that during this period more than 40% of our turnover was not voluntary. At present our turnover has stabilized, but it would be shortsighted to believe that this will not be an ongoing issue. According to APCO Project RETAINS, "Turnover is normal and inevitable...larger centers with predictable turnover rates should be able to plan for it and over hire." As fiscal conditions improve, RWECC will once again turn our attention to building staffing levels up in order to provide better service for our user agencies and to reduce ring times on critical 9-1-1 calls. At the present time our focus remains on the reduction of turnover, and on managing the impact of an ever less-experienced staff.



Telecommunicator Bill Cousins (left) at his retirement party in 2009. As staffing increases and more senior employees reach retirement age, our organization will be faced with the task of filling the gap in experience and knowledge created by this trend. This will place an increased emphasis on the need for good supervision as well as the benefit of expanded training efforts.

### Reason for Separation from Service

| Reason FY09-FY10 (YTD)                 | Attrition | % of Attrition |
|--|-----------|----------------|
| Family/Personal Reasons                | 4         | 15%            |
| Health Reasons                         | 1         | 4%             |
| Job Dissatisfaction                    | 0         | 0%             |
| Other Employment - COR                 | 2         | 7%             |
| Other Employment - External            | 7         | 26%            |
| Relocated                              | 0         | 0%             |
| Retired                                | 2         | 7%             |
| Returned to School                     | 0         | 0%             |
| Terminated (or resigned in lieu of)    | 11        | 41%            |
| <b>Total Attrition FY09-FY10 (YTD)</b> | <b>27</b> | <b>100%</b>    |

# 2009

## Environmental Initiatives



***Helping to create  
the most sustainable city  
in the southeast.***

### Current Sustainability Initiatives

#### Monitors

New 24" monitors for the telecommunicator stations will reduce the number of required monitors by one per workspace while giving each position more display area real estate. Also, each new monitor uses 50% less energy than the older 19" monitor by utilizing LED backlighting and more efficient power supplies. The 50% power reduction will result in a more than 15,000 kilowatt hour per year savings center-wide.

#### Systems

New workstations for each telecommunicator position are equipped with 28% more efficient power supply than units they replace. (Power supplies were originally 60% efficient, but have been increased to 88%). Also, the new systems utilize a minimum of 10% post-consumer recycled plastic and carry an EPEAT Gold status.

#### Server Virtualization

RWECC IT staff has been working on server consolidation / virtualization and soon will have all capable servers virtualized in a VMWare environment. We have consolidated our number of physical servers from 63 down to 9 by virtualizing many of them. This will save approximately 66% in power and cooling costs.

#### Radio "Recycling"

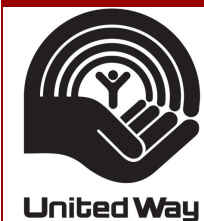
The Communications and Electronic Maintenance Shop (CEMS) has been recycling former RPD radios for use by other City of Raleigh Departments. These radios were replaced by units funded through a grant, and staff has selected the most serviceable units for reprogramming and installation.

#### AVL Expansion

Expansion of the current Automatic Vehicle Location (AVL) system from Emergency Medical Services to all municipal law enforcement agencies including Raleigh Police will even further reduce the use of fuel by emergency vehicles by assuring that the unit with the least actual travel time is dispatched to all emergencies.

## Giving Back to the Community

**W**hile relatively small compared to many City of Raleigh Departments, the Emergency Communications Center and our Communications Electronics Maintenance Shop make a big impression when it comes to giving back to others. Although, to some degree, this is accomplished through the nature of our business, there are numerous outside activities performed individually or as an organization throughout the course of the year. Several ECC employees are active members of local fire departments and rescue squads, while others support local community groups, and Director Barry Furey led the City of Raleigh Combined Campaign. Here is a list of some of the more formal activities undertaken during 2009:



# 2009



**C**ontinuing an annual tradition, Jesse Creech, Walt Fuller, Kelly Palmer, and Judy Capparelli stuff toiletry bags for the Raleigh Rescue Mission.



**I**n 2008, RWECC began participation in the state "Adopt a Highway" program. Here Assistant Supervisor Russell Rigouard collects trash on Barwell Road. The street adopted by employees is also coincidentally the location of the backup 9-1-1 center.



**R**WECC also reaffirmed its support for the Raleigh Police "Run for our Heroes" event.



**RALEIGH-WAKE  
EMERGENCY  
COMMUNICATIONS  
CENTER  
TRAINING  
DIVISION**

# 2009 RWECC Training In Review

January—December 2009

Angie Schulz, Training Supervisor

## Training Division :

- Amanda Davis
- John Franks, ENP
- Bob Leap
- Angie Schulz, ENP

## 2009 In Review

Training Meetings 2

In-Service Training 2

CTOs 2

Moodle 3

Hiring/Selection 3

39th Training Academy 3

2010 Goals 4

## A Year of Updates and Change

In describing 2009, the words “update” and “change” quickly come to mind. In the past year many aspects of the ECC Educational program were modified or updated. The reason for the change was to maintain the high expectations previously set and to surpass those expectations by finding better ways to train and educate employees.

The first quarter of 2009, all members of the Training Division were assigned a call taker trainee. Even though this assignment was out of the norm, it proved to be a valuable learning experience. By working and training in the ECC, the Training Division was given renewed understanding of what knowledge and skills the telecommunicator and call taker need to be

successful. This valuable experience led to the frenzy of change in 2009.

The first update was to the ECC Training Academy Manual. The updated manual now has a professional appearance and is eye catching to the user. The manual was reorganized to mimic a text book. Lesson plans were either updated or created to match CALEA, APCO, and industry standards for the ECC Training Academy. Additional hands on learning was implemented throughout the ECC Training Academy. The CAD manual was updated and an additional associated workbook was created.

Training materials for the Training Academy were not the only updates that were made in

2009. Moodle, the online learning management system, was given a more appealing look to the user. As in previous years, all employees were again provided training by using the online system.

The aforementioned are only brief highlights of the progress of the Training Division. We will discuss more throughout this end of year review.

Our mission in 2009 was to provide interactive and high quality training to all employees. I feel we made great progress and followed through on that mission. This has been a year of growth.

Angie Schulz, ENP  
Training Supervisor

## ECC Training Academy Mission

The Training Academy is committed to providing its students with the best training available to support and accomplish the mission of Raleigh-Wake Emergency Communications Center. By creating an atmosphere that is conducive to the learning process, students are provided with the skills and knowledge necessary to successfully carry out department objectives while embracing the agency's core values of professionalism, courtesy and compassion.



**2009**

## Training Meetings

Throughout the year, all operational employees are provided monthly training. The training is used to discuss hot topics, industry trends and general review. This year was no different.

Due to training commitments, the Training Division Staff was unable to facilitate training for the 1st quarter in 2009. Graciously the Director and Deputy Directors agreed to throw their hat in the training arena and proctor Training Meetings. The

employees enjoyed the change and the opportunity to meet with upper management.

By far the highlight of all training meetings would be "GEO Jeopardy" and "Double GEO Jeopardy". Both training sessions created some good natured crew competition while reviewing geography knowledge.

Overall the common training theme for the year was to make it fun, interactive and relevant

for the learner. With less than an hour to pull off a training meeting before starting a 12 hour shift is not always easy. I do feel this year the Training Division staff stepped it up by providing excellent training.

|  |
|--|
| Jan—Evaluations                          |
| Feb— 1st Responder Safety                |
| Mar-Complaint Process                    |
| April-Did They Really Type That          |
| May-APP Medic Review                     |
| June-GEO Jeopardy                        |
| July-Are You Smarter Than Judy?          |
| Aug-Electronic Satellite Pursuit         |
| Sep-TDD Bingo                            |
| Oct-GEO Double Jeopardy                  |
| Nov-A Healthier You: Dealing with Stress |
| Dec-ERP Review                           |

## In-Service Training

Most of the in-service training consisted of professional development for employees versus operational skill building as in the past. This year all employees attended in-service training no matter what function they served the ECC. The City of Raleigh mandated compliance training for all employees; Customer Service, Harassment and Workplace

Violence.

To assist employees in their own professional development a team building workshop was provided. During the workshop the participants learned about themselves through the Myers Briggs Type Indicator using the Keirsey Model. The majority of the ECC employees fell into two categories: ISTJ (Introvert,

Sensing, Thinking or Judging) or ESTJ (Extrovert, Sensing, Thinking Judging). The purpose of the training was to provide self awareness and understanding to build teamwork and appreciate the diversity of all employees.

All EMD certified employees attended an Emergency Medical Dispatching Version

12 Upgrade in March. The EMD Quality Assurance Supervisor provided instruction on the enhancements to the protocol system.

### 2009 CTOs

Pam Brabham  
Jennifer Butler  
Roger Camarillo  
Danielle Gregg  
Teresa Melvin  
Chris Mise  
Mark Ostrander  
Mike Suzik  
Jenine (Ryan)Wells  
Marcus Wells  
Suni Wilkenshoff  
LaShundra Young

## Communications Training Officer Program

In 2009, we added 12 new Communications Training Officers. Having additional staff to train new employees has been a great benefit to the ECC. It is not easy to train a new employee. Their dedication and commitment should be commended. Three CTO training sessions were facilitated throughout the year. Also, CTO laptops were brought on line to

assist in documenting performance for new hires. The Training Division met with the CTOs twice in 2009, in July and in October to not only provide them training but to solicit their feedback on the training program. In the July session, to assist all CTOs a Documentation class was given with accompanying workbook. The purpose of the class was to

assist CTOs in the difficult task of documenting performance.

In the October session, discussions began in reference to adjusting the training standards for overall documentation and performance. Further enhancements to the new hire and CTO program will be implemented in 2010.

January—December 2009

## Moodle

The RWECC Training Division continued with its use of MOODLE, which is a free, e-learning platform. The program is used for a variety of educational and training topics including updates, industry news, as well as pertinent current events such as the H1N1 flu pandemic.

Every Quarterly Training

module includes EMD protocol cards review and scenario training, and departmental procedure review. Other topics include issues related to geography, new technologies, and improving customer service and professionalism within the Center.

Other modules added to Moodle this year included an in-depth glossary of

relevant terminologies commonly used, many of which include diagrams or pictures. Also added was a library of articles related to the 9-1-1 industry, listed by category. These categories include radios, telephony, new technologies, weather, and personal & professional development just to name a few.

Study resources were also

added to Moodle this year. These included comprehensive study guides for training academy students, as well as study guides for promotional exams. Another module added to Moodle in 2009 was the FEMA Courses. These not only included required ICS/NIMS classes but also included courses on leadership, supervision, interpersonal communication, problem solving, and others.

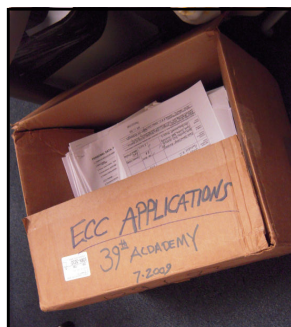
## Hiring/Selection

The hiring session for the 39th Training Academy was the largest in ECC history. A total of 545 applications were submitted for consideration to fill 14 vacant positions. From those applications, 181 applicants were tested; 78 applicants were successful and proceeded to the interview phase; 29 applicants were sent for psychological assessments. After the most competitive hiring session in the ECC, 14 smart and talented new employees began employment.

In the spring of 2009, employment testing standards were raised. An analysis was completed on employees hired in 2007 and 2008 in relation to employment testing scores. It was discovered the higher the test score the lower the attrition rate and the higher

the performance. Employment testing standards were raised to 85% and 2500KPH.

With assistance from ECC IT, a hiring database was created to assist in tracking applicants and also to run reports to assist in recruitment efforts. Besides NC, what state does the ECC receive the most applications from? Our state to the north, Virginia, but New York isn't too far behind. What is the age group that has the most interest in positions with the ECC? 26-35 years of age.



## 39th Training Academy

The 39th Training Academy began on July 20, 2009. Before any training academy there is much preparation. and this would be an understatement for this Academy. All lesson plans were either re-written or revised to incorporate exponential learning theories. All training materials and manuals were updated. There were many enhancements to the program.

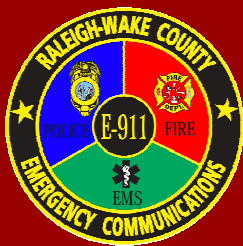
All Training Academy manuals were updated to include the ECC Training Academy Manual, CAD Training Manual and Call Taking Guide.

New student workbooks were created. An Incident Type workbook was created to assist in the valuable skill of call taking. A CAD workbook was developed to assist in practicing and retaining CAD skills.

Lesson Plans were revised to

include more activities and exercises to increase student learning. A Geography Training Module was incorporated to give students 45 hours of geography training. A website called "Flash Card Machine" (<http://www.flashcardmachine.com/p/10codes>) was used as a training tool for new employees to study while at home. Also a pilot laptop program was initiated for new Trainees.

Students were exposed to the ECC much earlier than in past academies, observing in the ECC at week 4. They received 72 hours of observation and direct training in the ECC. The amount of practical time provided was 80 hours. For the first time trainees were provided live training on 9-1-1 calls at Barwell Road Facility. Look for more growth to the ECC Training Academy in 2010.



RALEIGH-WAKE  
EMERGENCY  
COMMUNICATIONS  
CENTER  
TRAINING  
DIVISION

2009 Training Report

## 2009 Quarterly Training Topics—Moodle

### 1st Quarter:

EMD Card Review  
EMD Scenarios  
"Officer Down", journal article Public Safety Communications, Nov. 2008.

### 2nd Quarter:

Sync 9-1-1 Assist  
EMD Card Review  
ICS 100—ICS Review  
ADD— Video Relay/IP Relay  
2nd Quarter Procedure Review

### 3rd Quarter:

Stress and the Emergency Dispatcher  
GEO Parking Lots and Decks  
EMD Card Review  
3rd Procedure Review  
"9-1-1 Fitness", journal article Public Safety

### 4th Quarter:

NC State Fairgrounds GEO Review  
Manual Call Taking/Dispatch Cards  
EMD Card Review  
4th Quarter Procedure Review  
EMD Scenarios

## Monthly Continuing Education Hours

|                    |                  |                     |
|--------------------|------------------|---------------------|
| January—118 hours  | May—254 hours    | September—124 hours |
| February—134 hours | June—156 hours   | October—1209 hours  |
| March—649 hours    | July—640 hours   | November—172 hours  |
| April—406 hours    | August—342 hours | December—155 hours  |

## 2010 Goals

### Upcoming Projects / Goals:

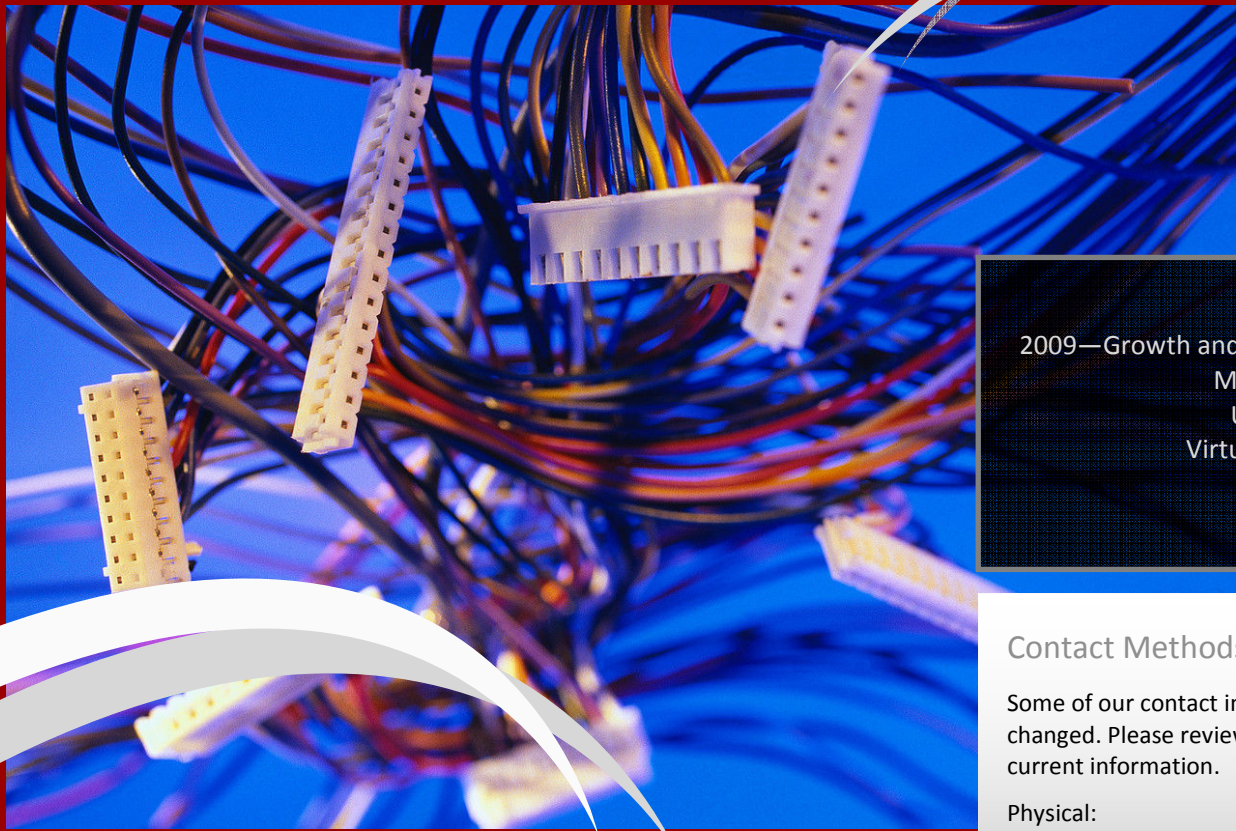
- Obtain APCO Project 33 Academy Accreditation
- Continue preparation for upcoming CALEA Training Academy Accreditation
- Task analysis of all defined duties per ECC operations disciplines
- Revision of Daily Observation Reports and related forms
- Increase support and training for all CTOs
- Implementation of e-learning courses for professional development
- Create a comprehensive call-handling guide to include all facets of call taking
- Create a library of comprehensive radio and telephone recordings for practical use
- Educate all users CAD 6.7.9 upgrade
- Professional development of training staff to include ENP and General Instructor Certification.
- Continued use and development of the e-learning system by augmenting the current program used for quarterly training.
- "Healthy and Well Balanced Lifestyle" Education Program
- Create a mentoring program for new hires
- Continued advancement of e-learning system for the Training Academy
- The Training Division to become more of a training resource available to all employees
- Implement a Back to Basic's Program
- Transition to green initiatives throughout various training programs

2009



# Raleigh—Wake Co. ECC

Technical Services Division  
End of Year Report 2009



## EOY 2009

2009—Growth and Projects P.1  
Milestones P.2  
Upgrades P.3  
Virtualization P.4  
Statistics P.5  
Goals P.6

## Contact Methods

Some of our contact information has changed. Please review the most current information.

### Physical:

222 W. Hargett St, Room 009

Raleigh, NC 27601

### USPS:

P.O. Box 590

Raleigh, NC 27602

[eccit@ci.raleigh.nc.us](mailto:eccit@ci.raleigh.nc.us)

(919) 996-5016

## 2009—A Year of growth and projects

The Raleigh—Wake County Emergency Communications Technical Services staff brings to a close another year. Our mission continues to increase in scope and complexity, as our customers ever expand their technical requirements. During the calendar year, we made great progress with numerous projects, expanded and reorganized our staff and enacted improvements that both increased productivity and decreased costs. We will discuss many of those improvements in this yearly report.

Raleigh—Wake Co. ECC Technical Services is comprised of three groups:

**Systems Administration** which is responsible for the entire infrastructure of the 911 operation. This includes projects, maintenance and daily requests for all server hardware and software, databases, CAD applications, networks, recording devices, PSAP equipment, and other electronic devices within the ECC.

**Geographic Information Systems (GIS)** which handles the mapping and CAD configuration data. They are responsible for the accuracy of our CAD GIS data and the various CAD data, specifically recommendations and response.

**Communications—Electronics Maintenance Shop (CEMS)** which is responsible for the City's radio infrastructure and daily requests for all of the Raleigh Police Department's RADAR certifications, radio programming, repairs and inventories and is involved in the installation, repair, and procurement of many electronic devices within the ECC and the City of Raleigh.



# Highlights of 2009

This is a brief overview of the many accomplishments and milestones realized by the technical services staff in 2009.

A full conversion to the Positron Viper VoIP PSAP equipment took place. This state of the art PSAP technology readies RWECC for Next-Generation 911 solutions and also opens various opportunities for disaster planning. The largest success so far has been the ability to train telecommunicators and call takers on live 911 calls while still remaining in the controlled environment of our training facility.

A process was developed for making road closures on the Marvlis In-Vehicle Navigation system easier to implement. This allows us to quickly add street closures to our mapping systems and efficiently route responders around them. Previously this was a lengthy, cumbersome process.

CEMS technicians received the Association of Public Safety Communications Officials—International (APCO) certification “APCO Public Safety Radio Technicians.” This was a huge accomplishment as the CEMS team continues to work more and more within public safety applications and radio infrastructure.

Staff continued to evolve the IVN and PMDC applications which are mobile data tools used by responders. Both applications were upgraded to the most current version, fixing numerous bugs and adding features. Several agencies began using the applications over the last 12 months; Raleigh Fire, Morrisville Fire, Raleigh PD and Holly Springs PD, to name a few. Currently we have about 400 users online at a time for PMDC and 100 for IVN; This number continues to grow.

Utilizing historical GPS data from the EMS units, impedance data was attached to the EMS geographic layers. This allows for the system to more accurately plot routes for EMS units based on historical traffic

conditions. This will be a continuing effort to evaluate this data. This updated information and the GPS coordinates received from the trucks is most certainly an added service to the community as we make sure the closest unit is sent and the optimal route is taken once dispatched.

CEMS staff implemented an annual preventative maintenance and documentation process. This will ensure that all of the infrastructure is tuned and operating at an efficient level and that we have very specific documentation on every piece of the inventory. These site reference guides have already proven useful in troubleshooting issues, saving potentially many hours of investigation.

We began the process to upgrade our Locution Systems to the latest version, while simultaneously installing a station alerting solution in a Raleigh fire station. These enhancements will increase our capabilities with this dispatch product and give Raleigh Fire some advantages during busy call volume times.

The GIS staff extended our community outreach by doing a demonstration for a ‘GIS In Middle School’ program. This is a program where middle school children are shown the various functionalities available within the GIS arena. Our use of this technology is expansive and the children have a great time with this.

CEMS finalized the 800 MHz migration for Raleigh Police Department. All mobile and portable radios are now converted and the entire agency is utilizing 800 MHz. CEMS also installed new equipment in the district stations to allow better communications there.



## Organizational Changes

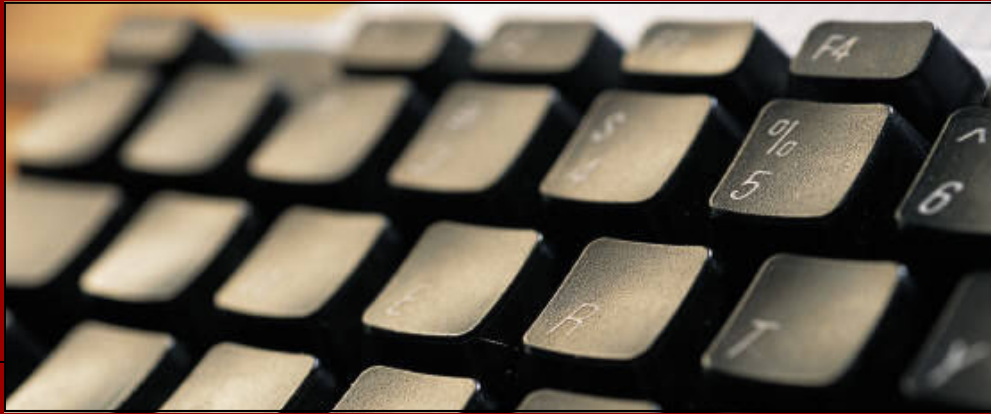
As the technical requirements of our agency and those that we service continue to increase, so must the staff available to perform this work.

Over the last 12 months we made organizational changes that proved beneficial to our agency.

Kevin Whelan was hired to the role of Public Safety Radio Specialist. Together with his manager, Bill Passerino, they are responsible for the City’s interests in the 800 MHz system. As Wake County is overall the maintainer, the City of Raleigh has a huge investment in equipment and it is vital that these individuals take excellent care of the equipment and users

Bill Passerino was reclassified in his position and now manages the 3 CEMS technicians and the Public Safety Radio Specialist. Bill has been very instrumental in setting goals and projects for CEMS so the entire City of Raleigh can realize the benefits of this team.

Brad Golden was hired in the newly created systems administrator role. Brad has numerous years of experience in IT. Brad has been a fast learner, never hesitating to jump into projects. He will prove to be a huge asset to the technical services team.



## EYE ON THE WEB

In an effort to provide more timely and accurate information to news media sources, we implemented a website that displays current traffic accident and other traffic flow events on a map. This allows citizens or news agencies to see the information in near-real-time and also eliminates 1000s of calls into the ECC by these entities to try to gather the information. This has proven quite successful and on average we receive about 1000 hits per day

We also utilize the popular social networking service Twitter to disseminate the information. With about 450 followers, this service is also quite popular.

Visit Us:

<http://incidents.rwecc.com> and  
<http://twitter.com/RW911>

## Hiring

We expanded our online hiring website to include the ability to schedule interviews. This has saved numerous hours for training staff, as it eliminated at least one phone call per application received.

## Motorola Premier CAD Upgrade

RWECC staff have been working with Wake County IT on the replacement of aged CAD server equipment. This equipment has reached the end of its support life-cycle as well as lacks the robustness needed by the vast array of systems in use.

In August, 2009, Wake County released a RFP for replacement Non-Stop servers and the professional services to upgrade the CAD software applications that go along with it.

This RFP was awarded to Motorola and the upgrade process began. In November a project kick-off meeting was held. RWECC will move to new HP NS1202 servers at Hargett and Barwell. CAD will be upgraded to version 6.7.9 and UDT, Open Query, PMDC, AVL, AWW and ATM application software will be upgraded to the latest versions.

This will be a huge step in system performance. The new CAD version will also bring needed features and enhancements. Raleigh—Wake went to version 6.6.x prior to go-live in 2003, so a 6.7.x upgrade will be welcome.

PMDc and AVL will also be upgraded to the latest versions. These upgrades will provide some beneficial features to the responding departments. Stacked calls, FIPS compliance and the ability to view hazards are a few tied to PMDC.

This will be a lengthy process and will involve cooperation from the City of Raleigh Public Safety organizations as well as numerous Wake County departments.

While we are currently set for a February go-live on CAD, we have already upgraded all of the 'Friends of CAD' applications.

This puts us in a good position to do the training and pre-deployment exercises needed to insure a successful upgrade for everyone involved.

We are excited about this upgrade and know it will prove very useful for all of the responding agencies.

## Green Initiatives

Q: What has RWECC technical staff done to assist in saving the environment?

Here are just a few of the many ways that we are dedicated to the green initiatives:

- Virtualization of server equipment (see full article on Virtualization)
- Laptops for training staff and trainees; this eliminates the need to use reams of paper each year on training materials. Access to up-to-date training material also saves on duplicate or wasted copies.
- Replaced all CAD workstations with Dell equipment that utilized power supplies that are 88% efficient.

# Virtualization and Cost Savings

How has this effort saved time and money for all of our users?

Virtualization is defined as a “term that refers to the abstraction of computer resources.” Since this definition was probably no help in understanding what it is, lets just say, Virtualization allows us to better utilize resources while still providing the same results. Or in an even simpler fashion, Virtualization allows us to take many servers worth of applications and data and run all of that from one or two robust servers. Let’s look at the example of car-pooling. Each car has at least 4 seats in it but typically we only use one or two. If we always filled all the seats up, think of the savings on vehicles, gas, etc. that could be realized. This is similar to our server racks. We usually dedicate a single application to a server, theoretically leaving at least 3 seats of processing power vacant. When we fill the server up, we get the same end result but at much less cost for those additional servers, HVAC, electrical, and on and on.

Raleigh—Wake Co. ECC technical staff began using VMware’s virtualization products about 3 years ago. Over the last year we made a huge migration and are now fully utilizing these techniques in our infrastructure.

## How does this impact me?

Take a look at this chart. It shows the total number of servers in use by year within the RWECC.

| Year | Total |
|------|-------|
| 2000 | 3     |
| 2002 | 15    |
| 2003 | 16    |
| 2004 | 33    |
| 2005 | 37    |
| 2007 | 42    |
| 2008 | 48    |
| 2009 | 63    |

As you might guess, these huge expansions most certainly come at an expense. As well, the ongoing maintenance and replacement of these devices will come with a cost. With the average price tag of a server being about \$4,000.00, you can see the replacement costs are staggering.

This is where virtualization comes in. While the count of servers and services has doubled over the last 5 years, the costs have remained relatively constant. As well, we have prepared ourselves for future growth. The current servers handling this consolidated load are running at about 15% capacity. This will allow quite a bit

of expansion before any additional costs are realized. In looking at the actual costs, we estimate a savings of more than \$80,000 over the 3 year life of the equipment. If you multiply this by an average growth of about 10%, when we replace the current infrastructure in 3 years that savings will be over \$100,000 or \$33,000 a year.

## Where do we go from here?

Over the next 12 months, RWECC will be looking into this same type technology but for PC’s. While the savings aren’t as dramatic because of our limited number of PC’s, they are certainly prevalent.

There are numerous benefits from these technologies, most importantly the ability to quickly restore backup images of servers and have an application back online in minutes. Where the previous process of getting a replacement server and performing the processes necessary to get back online was at best 4 –6 hours.



## Radio Conversion

The Communications Electronics Maintenance Shop (CEMS) began the conversion of all non-public safety City of Raleigh departments that utilize RF equipment to UHF.

The need to create a system of interoperability was great but the need to have adequate coverage within the growing City was greater.

RWECC took this as a mission to design a full coverage system while keeping the costs to the City low.

With Raleigh Police’s migration to 800 MHz, this freed up frequencies and radios.

A multi-phase plan has been developed to move all City departments to the UHF system, utilizing recycled police radio’s and then over several years expand the repeater sites to enable full City coverage.

CEMS has been successful in moving two departments over already and are working on a third.

To date the cost savings to the City is more than \$75,000 in radios alone. This doesn’t take into consideration the savings provided by CEMS technicians doing the installations and maintenance on this equipment.

This is a huge benefit to the City and when fully rolled out should provide a very useful radio infrastructure for non-public safety departments and provide a fail-over plan for Public Safety if the 800 MHz system fails.

# Upcoming Projects / Goals

## Replacement of the phone and radio recording system

First quarter 2010 we will be installing a new recording system which is needed to replace the aging Freedom system in place.

## Pictometry

Pictometry is aerial oblique photographic images that will allow us to see multiple views of buildings and landmarks, this will aid in the decision making of our staff and assist responders in locating the scene.

## Desktop Virtualization

We will examine the benefits of this technology on our systems. We also plan to produce a cost benefit analysis for use in budgeting.

## UHF Radio Infrastructure

Continue to improve and enhance our UHF radio infrastructure. Prepare for the FCC deadline on narrowbanding. We can plan for the replacement of some of the aging equipment.

# Procedure Review / Disaster Recovery

This past year the IT Division worked closely with the ECC's Accreditation Manager to ensure that the standards that dealt with our division were being maintained. As a part of the second edition of CALEA standards ECC IT also assisted with the modification of our disaster recovery plan, which is a part of the new Homeland Security standards, to make sure that all applicable professional standards were being met and maintained.

6.8.1 M All computer and other programs are properly licensed and used according to copyright laws.

6.8.2 M The agency takes precautions to guard computer systems from computer viruses and unauthorized external access.

6.8.3 O A written directives establishes policy for the introduction, removal, alteration, or downloading of computer files or programs.

6.8.4 M The agency uses or has access to e-mail, the Internet, or other information systems; it has written policies and procedures directed toward: (a) Liabilities and risk involved; (b) Risk to computers and software programs; (c) Expectations of privacy; (d) Approved activities; (e) Prohibited activities; and (f) Management review of activities.

6.8.5 M A documented inspection of the computer records and security system is conducted on all passwords or access codes for violations and improper use at least quarterly.

6.8.6 M A written directive establishes procedures for backup computer information, including; (a) Back-up, use, and storage of computer files; (b) Off-site storage of backup media; (c) Security of backup files and media; and (d) Destruction of backup files and media.

6.8.7 M The agency has a written directive which identifies computer, record or information systems, either internal or external, that require password access and addresses: (a) Password construction; (b) Password changes at a minimum every 90 days; and (c) Password access termination when employment status or position changes.

7.1.11 M The agency has a disaster recovery plan that addresses: (a) Risk and impact assessment; (b) The agency's role in other public safety plans; (c) Mitigation strategies; (d) Resources needed for recovery; (e) Documented annual review of plan; and (f) Documented annual verification of resources.

## The Technical Services Staff

Brian Barker—CEMS Technician

Matt Boyd—Systems Admin

Bill Eagen—GIS

Bob Feagan—CEMS Technician

Brad Golden—Systems Admin

Dan Krenzke—CEMS Technician

Glenn Lamb—Systems Admin / GIS

Bill Passerino—CEMS Manager

Craig Schulz—Systems Manager

Kevin Whelan—PS Radio Specialist

Dustin Winkler—Systems Admin

## Raleigh-Wake Emergency Communications Quick Reference Fact Sheet

|                           |  |
|---------------------------|--|
| <b>Agency:</b>            | Raleigh-Wake Emergency Communications  |
| <b>Address:</b>           | PO Box 590, Raleigh, NC 27602  |
| <b>Agency Head:</b>       | Barry Furey, Director  |
| <b>Telephone:</b>         | 919-996-3530   |
| <b>Fax:</b>               | 919-831-6859   |
| <b>Email:</b>             | barry.furey@ci.raleigh.nc.us   |
| <b>Agency Founded:</b>    | January 28, 1972   |
| <b>Services:</b>          | Emergency and non-emergency dispatching for the City of Raleigh and the majority of communities within Wake County; 9-1-1 PSAP (Public Safety Answering Point). Also provides technical services and communications support through the Communications Electronics Maintenance Shop. |
| <b>Agencies Served:</b>   | 46   |
| <b>Population Served:</b> | 868,121 ( 2008 estimate )  |
| <b>Employees:</b>         | 102 total, all activities and positions  |
| <b>Budget:</b>            | \$9,302,267 FY '09-10  |
| <b>Funding Sources:</b>   | City of Raleigh; member communities of WECO (Wake Emergency Communications Organization) on a per-call rated basis; North Carolina State 9-1-1 Fund.   |
| <b>Incoming Calls:</b>    | 805,107 per year   |
| <b>Outgoing Calls:</b>    | 262,339 per year   |
| <b>Total Dispatches:</b>  | 444,160 per year   |
| <b>Radio Calls:</b>       | 2,307,471 per year   |
| <b>Certifications:</b>    | Accredited since 2007 by the Commission on Accreditation for Law Enforcement Agencies (CALEA). Accredited Center of Excellence (ACE) since 2007 by the National Academy of Emergency Medical Dispatch.   |

